COMMITMENT & INTEGRITY
DRIVE RESULTS

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August 1, 2013

Ms. Kimberly Tisa
PCB Coordinator
U.S. Environmental Protection Agency Region 1
5 Post Office Square – Suite 100
Boston, Massachusetts 02109-3912

RE: PCB Remediation Plan under 40 CFR 761.61(a) with Alternative Verification Sampling Frequency and Encapsulation Contingency
University of Maine Field House Renovations – Orono, Maine

Dear Ms. Tisa:

On behalf of the University of Maine System (UMS), this PCB Remediation Plan has been prepared for the remediation of polychlorinated biphenyls (PCBs) in door caulking on the north and west façades of the Field House, which is located on the University of Maine (UMaine) campus in Orono, Maine.

This plan details the proposed remedial approach for the removal and off-site disposal of PCB caulking and attached PCB impacted building materials as ≥ 50 parts per million (ppm) PCB bulk product waste under 40 CFR 761.62, and a proposed 40 CFR 761.61(a) approach for verification and remediation, if needed, of adjacent building materials scheduled to remain in place. Specifically, a variance from the Subpart O verification requirements is proposed, as the sampling frequency presented herein will provide a reasonable and adequate representation of each type of joint subject to remediation.

The key components of the remedial approach include complete removal of PCB-containing caulking as well as the door frames and steel lintel which are coated or attached to the caulking. Concrete and brick masonry surfaces in direct contact with the caulking will be subject to removal via saw cutting and chipping techniques. After masonry removals, verification sampling will be performed to confirm that materials remaining in place meet the unrestricted use cleanup level. If this level cannot be met, additional masonry removals may be performed. If no additional masonry removal can be performed at a given extent, then a contingency plan for an in-place management approach (liquid encapsulation) will be implemented. Removed PCB waste materials will be transported for off-site disposal at an out-of-state hazardous waste landfill permitted to accept PCB ≥ 50 ppm wastes.

Additional details regarding the proposed scope of work and materials management approach are provided below.

Background

The Field House building was originally constructed in 1926 with subsequent renovations over the years. The Field House is a brick and concrete masonry building measuring approximately 53,200 gross square feet at the indoor track portion of the building. As part of a summer 2013 renovation project, 16 double doors located on the north and west elevations of the building are being removed and replaced (see photos provided on the next page).

As part of the planning for the project, Woodard & Curran visually surveyed and sampled representative caulking and sealants observed at the four double doors on the west elevation of the Field House and the three sets of four double doors on the north elevation of the Field House subject to renovation activities. One type of caulking material was identified at the perimeter of each of the 16 double doors at both the interior and exterior joints between the metal door frame and adjacent masonry. The caulking is present at the vertical joints of each door (7 linear feet [l.f.] each) and the upper horizontal joint beneath the steel lintel (6 l.f. in length) for a total quantity of 640 l.f. of caulking (20 l.f. interior and 20 l.f. exterior per door). Samples of this material were collected from exterior and interior locations and were transported to Analytics Environmental Laboratory under standard chain of custody procedures, extracted using USEPA Method 3540C (Soxhlet) and analyzed for PCBs by USEPA Method 8082. Samples collected for PCB analysis from this caulking were reported with PCBs at concentrations of 94,900 ppm (exterior caulking) and 174,000 ppm (interior caulking), both of which are above EPA's 50 ppm threshold for PCB bulk product waste under 40 CFR 761. The laboratory analytical report is provided in Attachment 1.

Remediation Plan

Upon removal, the caulking, door frames and steel lintels will be managed collectively as ≥ 50 ppm PCB bulk product waste with disposal to a hazardous waste landfill. While the caulking, door frames and steel lintels will be removed in their entirety as PCB waste ≥ 50 ppm, adjacent masonry in direct contact with the caulking will also be removed at this same time and collectively with the doors and caulking; however, the masonry removals will be within a specified cut line corresponding to the project cut-line for the installation of the new doors as follows:

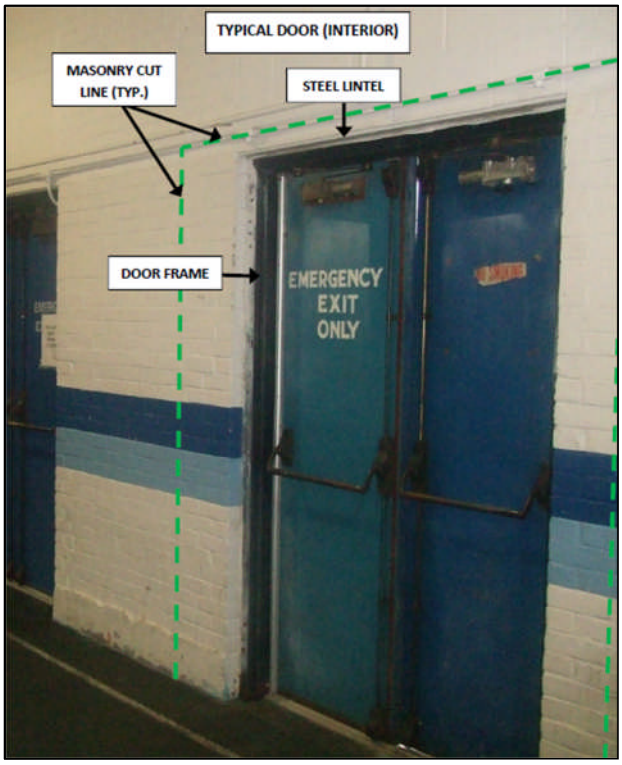
- Adjacent Brick Masonry - 9.625 inches along each vertical side of each door, and, first row of bricks above a steel lintel on top of the door.
- Adjacent Concrete Masonry – 9.625 inches along each vertical side of each door, and, equivalent height to the first row of exterior bricks above a steel lintel on top of a door.
- Concrete Door Threshold – 9.625 inches on either side of the horizontal joint to a depth of 1.0 inches.

Photographs of the anticipated cut-lines are provided below.

Waste generated from the masonry removal process will be managed as PCB waste ≥ 50 ppm with the caulking, and work completion will be demonstrated by verification sampling to confirm that the masonry remaining in place meets the unrestricted cleanup level of ≤ 1 ppm.

The work will be performed by a remediation contractor trained in the abatement of PCB-containing materials. Prior to performing the work, the contractor will prepare a health & safety plan (HASP) specific to the work activities. At a minimum, this health & safety plan will specify that all workers are to comply with applicable Federal and State regulations regarding the work activities, including but not limited to OSHA regulations, respiratory protection, and the use of appropriate personal protective equipment (PPE).

The contractor will also prepare a brief work plan detailing the proposed means and methods for performing the work, including proposed site setup and engineering controls, proposed tools and techniques to be used for each activity, sequence of work, equipment and waste storage locations / staging areas, and a proposed disposal facility. A copy of this plan will be provided to EPA prior to commencing the work.



The ≥ 50 ppm PCB-containing caulking, door frames, steel lintels and waste generated from the adjacent masonry removal activities will be removed as a single waste stream. To reduce particulate levels and exposures to airborne particulates, a combination of engineering controls (e.g., work zone enclosures, wetting, etc.) and personal protective equipment (PPE) will be implemented as part of the work activities. Access to the active work areas will be controlled by the contractor through fencing, posting of signs, or other equivalent means.

Upon the completion of the removal activities, Woodard & Curran will visually inspect the work area to document the extent of the removals and collect verification samples.

Post-removal masonry verification samples will be collected from the masonry surface in former direct contact with the caulked joint to confirm that the target cleanup level of 1 ppm has been achieved. A variance from the Subpart O verification requirements is proposed for this project as the sampling frequency presented herein will provide a reasonable and adequate representation of each type of door joint subject to remediation, as described below.

Verification samples will be collected at a minimum frequency of 2 samples per door opening (equivalent to 1 sample per 20 linear feet of caulking) for a total of 32 primary samples. To obtain adequate representation of each surface in direct contact with caulking, the samples will be collected from the following surfaces:

- 8 samples from the upper horizontal joint (masonry in former direct contact with lintel)
- 8 samples from the lower horizontal joint (no direct contact; sample to be collected from masonry below former vertical joint termination point)
- 8 samples from the left vertical joint (masonry in former direct contact with caulked joint)
- 8 samples from the right vertical joint (masonry in former direct contact with caulked joint)

A table detailing the joint quantity, joint type, and proposed sampling locations is provided as Table 1, and a table summarizing the proposed remediation and verification is provided as Table 2. The door identifiers listed on Table 1 are depicted on the attached Drawings AD101.

Masonry samples will be collected from a depth of 0 to 0.5 inches in accordance with the EPA Region 1 *Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs) Revision 4* (May 2011). Samples will be transported under chain of custody protocols to Alpha Analytical Laboratory of Westborough, Massachusetts for extraction by USEPA Method 3540C (Soxhlet Extraction) and PCB analysis by USEPA Method 8082.

Analytical results from the bulk masonry samples will be evaluated in comparison to a 1 ppm target cleanup level. If the cleanup level is achieved, the new door will be installed and re-caulked with no additional PCB remedial actions. If the 1 ppm cleanup level has not been achieved, then additional removals may be attempted, if possible and depending on the detected concentration, and verification samples collected at off-set locations.

If masonry removals cannot be performed to the extent where the 1 ppm level is achieved, a contingency plan for a containment barrier system is proposed to be installed as an in-place management system. The encapsulation / barrier contingency plan includes the following components:

- If masonry containing PCBs > 1 ppm is encapsulated or contained by an in-place management approach at any location, the masonry in direct contact with the former caulking (i.e., within the joints) will be encapsulated with two coats of a protective, epoxy coating such as Devcon 5, Sikagard 62, or equivalent prior to being covered by the new door components and new bead of caulking. Masonry surfaces requiring encapsulation that will not be covered by a new door frame component will be encapsulated with two coats of a protective acrylic clear-coat such as Sikagard 670W, or equivalent.

- After encapsulation, baseline surface wipe samples will be collected to evaluate the effectiveness of the encapsulation and establish a baseline for future monitoring. The frequency for this sampling will be determined based on the number of areas subject to encapsulation. Wipe samples will be collected using hexane-saturated gauze wipes in accordance with the standard wipe test method (40 CFR 761.123). Analytical results from the wipe samples of the encapsulated surface will be evaluated in comparison to a 1 µg/100 cm^2 target level. If the target level is achieved, the task will be considered complete. If the 1 µg/100cm^2 cleanup level has not been achieved, then additional applications of the coating or other secondary barrier (e.g., door component) may be installed, and additional verification wipe samples will be collected at an off-set location, if warranted.

- Upon completion of the masonry verification sampling and if any areas will be subject to encapsulation, EPA will be notified of the results and subsequent plans, which would include subsequent submittals such as a long term monitoring plan, deed notice, and other requirements typical of encapsulation projects.

Wet wiping, spraying, and/or vacuuming of tools and equipment in the work area will be performed at the completion of the work activity. At the completion of the project, any non-disposable equipment and tools that handled PCB material will be decontaminated following the procedures described in 40 CFR 761.79.

Any removed caulking, door frames, masonry, or other debris collected within the polyethylene controls will be gathered and placed in the appropriate waste containers at the end of each work day. After use, disposable PPE, poly sheeting, and other non-liquid materials generated during the work will be placed in the same containers as the PCB waste for disposal. PCB wastes will be stored on-site in secure, lined, and covered waste containers such as 55-gallon DOT-approved steel containers, cubic yard boxes, roll-offs, or equivalent approved containers staged for the collection of PCB wastes in accordance with 40 CFR 761.65. PCB waste containers will be properly labeled and marked in accordance with 40 CFR 761.40, and include hazardous waste labels.

The waste will be transported off-site for disposal as ≥ 50 ppm PCB wastes to an out-of-state hazardous waste landfill permitted to accept TSCA-regulated and Maine hazardous waste (e.g., the Chemical Waste Management facility in Model City, New York). Copies of all waste shipment records will be collected from the contractor and maintained as part of the project record.

Following completion of the work activities, records and documents per 40 CFR 761 will be generated and maintained at one location. A final report documenting the completion of the work activities, verification analytical results, volumes of disposed materials, and waste disposal records will be prepared and submitted to EPA.

Schedule

The remediation work described herein is scheduled to be initiated by mid-August 2013 in order to meet overall project schedule objectives to reopen the Field House for use at the beginning of the fall semester.

Certification

The University of Maine hereby certifies that all the sampling plans, sample collection procedures, sample preparation procedures, extraction procedures and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site, are on file at the University of Maine's Facilities Management Office and available for EPA inspection.

Property Owner and Party Conducting the Cleanup

University of Maine System

Carolyn McDonough, P.E.
Associate Director of Facilities Management for Planning, Design & Construction
University of Maine

8/1/13
Date

If you have any comments, questions, or require further information, please do not hesitate to contact me at the number listed above.

Sincerely,

WOODARD & CURRAN INC.

Amy Martin

Amy Martin, P.E.
Project Engineer

Jeffrey A. Hamel, LSP, LEP
Senior Vice President

Enclosures: Table 1 – Proposed Verification Sample Locations
Table 2 – Summary of Proposed Remediation and Verification
Drawing AD101 – West and North Façade Door Locations
Attachment 1 – Analytics Environmental Laboratory Report #73928

TABLE 1
FIELD HOUSE - PROPOSED VERIFICATION SAMPLE LOCATIONS
UNIVERSITY OF MAINE, ORONO, MAINE

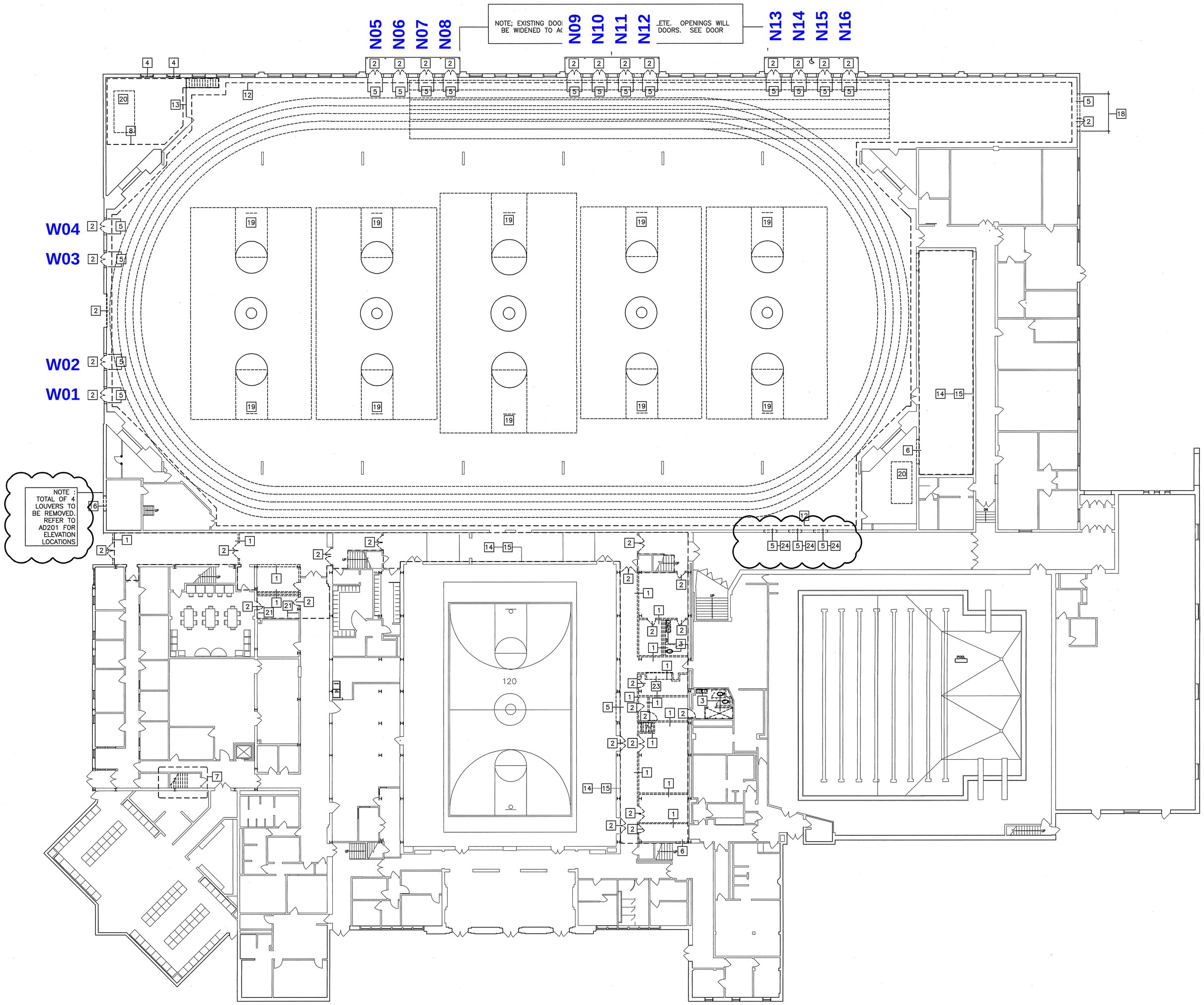
Elevation		*Door ID*	*Lintel (Top Horizontal)*	*Threshold (Bottom Horizontal)*	*Left Vertical Joint*	*Right Vertical Joint*	*Number of Samples*
WEST ELEVATION LEVEL (W)	West	W01	X		X		2
		W02		X		X	2
		W03		X	X		2
		W04	X			X	2
NORTH ELEVATION (N)	North	N05	X		X		2
		N06		X		X	2
		N07		X	X		2
		N08	X			X	2
		N09	X		X		2
		N10		X		X	2
		N11		X	X		2
		N12	X			X	2
		N13	X		X		2
		N14		X		X	2
		N15		X	X		2
		N16	X			X	2
Number of Samples			*8*	*8*	*8*	*8*	*32*

X = **proposed sample location**

	Quantity	**No. of Samples**	**Sample Frequency**
Total No. Door Openings:	16	32	2 per door

Table 2
Summary of Proposed Remediation and Verification
Field House - University of Maine

Material	North and West Façade Doors	
	Remediation	Verification
Perimeter caulking and steel lintels and door frames	Remove/dispose of perimeter caulking, steel lintels and door frames as ≥ 50 ppm PCB waste	Visual inspection only; all materials removed
Brick at vertical joints	Remove minimum of 9.625 inches of brick at vertical joints as ≥ 50 ppm for off-site disposal	Post-removal former direct contact samples to confirm cleanup levels have been achieved (16 samples)
Upper horizontal brick or concrete masonry above steel lintel	Remove minimum of first row of bricks (or equivalent height of concrete) above steel lintel at interior and exterior upper horizontal joints as ≥ 50 ppm for off-site disposal	Post-removal former direct contact samples to confirm cleanup levels have been achieved (8 samples)
Concrete Threshold	Remove minimum of 9.625 inches of concrete on either side of joint to a depth of 1.0 inch	Post-removal former direct contact samples to confirm cleanup levels have been achieved (8 samples)



GENERAL DEMOLITION NOTES:

1. COORDINATE EXTENT OF DEMOLITION WITH LOCATIONS OF PARTITIONS DESCRIBED ON PLANS AND WITH LOCATIONS OF FINISHES NOTED AS EXISTING TO REMAIN.
2. ANY WALL, PARTITION OR SURFACE DISTURBED BECAUSE OF NEW WORK OR DEMOLITION SHALL BE PATCHED AND FINISHED CONTINUOUSLY TO THE NEAREST CORNER UNLESS NOTED OTHERWISE. MATCH EXISTING ADJACENT CONSTRUCTION FINISHES, CONTINUITY AND FIRE RATINGS UNLESS NOTED OTHERWISE.
3. PROTECT ALL FINISHES, MATERIALS AND EQUIPMENT NOTED AS EXISTING TO REMAIN. CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE ALL FINISHES, MATERIALS AND EQUIPMENT DAMAGED DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE ALL EXISTING OR NEW FINISHES, MATERIALS AND EQUIPMENT, DAMAGED BY ANY WORK REQUIRED BY AND ASSOCIATED WITH THE CONSTRUCTION DOCUMENTS, WHICH IS NOT DESCRIBED AS BEING REMOVED OR DEMOLISHED.
5. FOR EXTENTS OF CEILING REMOVALS AND ADJUSTMENTS REFER TO REFLECTED CEILING PLAN
6. DIMENSIONS INDICATED ± ARE EXISTING CONDITION DIMENSIONS TO BE VERIFIED IN FIELD.
7. COORDINATE ADDITIONAL DEMOLITION WITH MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS.
8. COORDINATE REMOVAL OF FLOOR FINISHES WITH NEW WORK IN FINISH PLAN AND SCHEDULE.
9. SALVAGE BRICK BEING DEMOLISHED TO BE RE-USED AT EXTERIOR WALL INFILL LOCATIONS WHEN POSSIBLE
10. IT IS THE CONTRACTORS RESPONSIBILITY TO EXECUTE DEMOLITION WORK AS REQUIRED TO ALLOW THE EXECUTION OF NEW WORK. IF SUCH WORK IS UNFORESEEN AND/OR NOT DESCRIBED IN THE CONSTRUCTION DOCUMENTS, IT MUST BE APPROVED BY AND COORDINATED WITH THE ARCHITECT/ENGINEER.

DEMOLITION KEY NOTES:

1. REMOVE PARTITION IN ITS ENTIRETY.
2. REMOVE DOOR, FRAME AND HARDWARE IN ITS ENTIRETY.
3. REMOVE PLUMBING FIXTURE. REFER TO PLUMBING
4. REMOVE EXTERIOR WINDOW AND WINDOW FRAME IN ITS ENTIRETY.
5. REMOVE PORTION OF WALL/PARTITION AND PREPARE FOR NEW DOOR/WINDOW/OPENING. COORDINATE WITH NEW WORK FOR EXTENTS.
6. REMOVE PORTION OF PARTITION. COORDINATE WITH NEW WORK FOR EXTENTS.
7. REMOVE EXISTING STAIR AND HANDRAIL.
8. REMOVE EXISTING MEZZANINE AND STAIR COMPLETE.
9. REMOVE EXISTING ROOF IN ITS ENTIRETY. COORDINATE REMOVAL WITH MECHANICAL, ELECTRICAL, PLUMBING AND STRUCTURAL.
10. REMOVE PORTION OF CONCRETE FLOOR SLAB AS NOTED. COORDINATE WITH NEW WORK FOR EXTENTS.
11. REMOVE PORTION OF EXISTING ROOF. COORDINATE EXTENTS WITH MECHANICAL AND STRUCTURAL WORK.
12. ENTIRE EXISTING ATHLETIC SURFACE WITHIN DESCRIBED PERIMETER TO BE REMOVED BY OWNER.
13. REMOVE EXISTING CHAINLINK FENCE AND ACCESSORIES. PREPARE FOR REINSTALLATION IN THE EXISTING LOCATION.
14. REMOVE EXISTING FLOORING AND PREPARE SURFACE TO RECIEVE NEW FLOOR MATERIAL. REFER TO FINISH PLANS FOR FLOOR TYPE.
15. REMOVE EXISTING CEILING AND CEILING SUPPORT SYSTEM.
16. REMOVE EXISTING EXTERIOR MECHANICAL LOUVER.
17. REMOVE PORTION OF ROOF SURFACE. CONTRACTOR TO VERIFY EXISTING INSULATION AND DECK. PREPARE SURFACE FOR NEW INSULATION AND MEMBRANE.
18. REMOVE 4" OF EXISTING FOUNDATION WALL. COORDINATE EXTENT WITH NEW OVERHEAD DOOR TO BE INSTALLED. PREPARE SURFACE FOR NEW CONCRETE TO BE FLUSH WITH EXISTING FINISHED FLOOR.
19. REMOVE EXISTING BASKETBALL GOALS COMPLETE. REMOVE ASSOCIATED SUPPORT BACK TO BUILDING STRUCTURE. REMOVE LOWERING MECHANISM.
20. REMOVE EXISTING CONCRETE MECHANICAL PAD, MECHANICAL EQUIPMENT, MECHANICAL SYSTEMS AND SUPPORT FLUSH TO EXISTING FLOOR SUBSTRATE. REFER TO MECHANICAL DRAWINGS FOR SPECIFIC LOCATION/SIZE.
21. REMOVE EXISTING WALL FINISH MATERIAL TO STUD/MASONRY STRUCTURE. PREPARE FOR NEW WALL FINISH MATERIAL. SEE PLAN FOR PARTITION TYPE.
22. REMOVE WALL MOUNTED MECHANICAL UNIT. REFER TO MECH. SCOPE FOR EXTENTS.
23. REMOVE CASEWORK IN ITS ENTIRETY.
24. REMOVE PORTION OF FOUNDATION WALL AT NEW STAIR STEP. COORDINATE WITH NEW STAIR LOCATION.

W01 = Door Identifier

REV.	DESCRIPTION	DATE
1	ADD 2	04-05-13
0	ISSUED FOR CONSTRUCTION	03-13-13

CURRENT ISSUE STATUS: ADD 2 04-05-13

PROJECT NORTH

LICENSED ARCHITECT DAVID R. LAY No. 2502 STATE OF MAINE

SMRT
ARCHITECTURE
ENGINEERING
PLANNING
INTERIOR DESIGN
COMMISSIONING
144 Fore Street/P.O. Box 618
Portland, Maine 04104
tel. (207) 772-3846
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www.smrtinc.com

UNIVERSITY OF MAINE - ORONO
MEMORIAL FIELD HOUSE AND
GYMNASIUM RENOVATION
ORONO, MAINE

AECOM

GROUND FLOOR
DEMOLITION PLAN

SHEET TITLE:

SCALE:	AS NOTED	DATE:	04-05-13
PROJECT MANAGER:	DRL	GRAPHIC SCALE:	0" 1"
JOB CAP/DRAWN:	ART		
A/E OF RECORD:	DRL	SHEET No.	
SMRT CAD FILE:	AD101-12022	AD101	
PROJECT No.	12022		

A1 GROUND FLOOR DEMO PLAN

1/16" = 1'-0" –

ATTACHMENT 1: LABORATORY ANALYTICAL REPORT

environmental
laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

October 17, 2012

Ms. Amy Wallace
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

RE: Analytical Results Case Narrative
Analytics # 73928
UMaine-Field House

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082 and Selected Metals by EPA method 6010b/7471B.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

Case Narrative/Non-Conformance Summary
Sample Log Sheet - Cover Page
PCB Form 1 Data Sheet for Samples and Blanks
Chromatograms
PCB Form 10 Confirmation Results
PCB Form 3 MS/MSD (LCS) Recoveries
Metals Form 1 Summary
Metals Blanks and QC forms
Chain of Custody (COC) Forms

QC NON-CONFORMANCE SUMMARY

Sample Receipt:
No exceptions.

PCBs by EPA Method 8082:
No results were reported below the quantitation limit.

Samples 73928-1 and 73928-2 required dilution due to PCB concentrations that exceeded the calibration range of the instrument.

Metals by EPA Methods 6010B/7471B:
All samples required dilution for Lead and Mercury due to concentrations of these elements that exceeded the calibration range of the instrument.

The MS analyzed on sample 73928-8 did not meet acceptance criteria for lead due to high concentrations of Lead in the parent sample. The laboratory control samples were in control.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,
ANALYTICS Environmental Laboratory, LLC

Stephen L. Knollmeyer
Laboratory Director

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
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800-929-9906
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Ms. Amy Wallace
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

Report Number: 73928

Revision: Rev. 0

Re: UMaine Field House (Project No: 224329)

Enclosed are the results of the analyses on your sample(s). Samples were received on 09 October 2012 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Sample Analysis: The attached pages detail the Client Sample IDs, Lab Sample IDs, and Analyses requested

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, North Carolina, and is accredited by the Deparment of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature _____
Stephen L. Knollmeyer Lab. Director

Date 10/16/2012

environmental laboratory LLC

195 Commerce Way Suite E
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800-929-9906
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CLIENT: Woodard & Curran **REPORT NUMBER: 73928** **REV: Rev. 0**

PROJECT: UMaine Field House (Project No: 224329)

Lab Number	Sample Date	Station Location	Analysis	Comments
73928-1	10/05/12	FH-CBK-001	EPA 8082 (PCBs only)	
73928-2	10/05/12	FH-CBK-002	EPA 8082 (PCBs only)	

analytics environmental laboratory LLC

Surrogate Compound Limits

	Matrix:	Aqueous	Solid	
	Units:	% Recovery	% Recovery	Method
Volatile Organic Compounds - Drinking Water				
1,4-Difluorobenzene		70-130		EPA 524.2
Bromofluorobenzene		70-130		
1,2-Dichlorobenzene-d4		70-130		
Volatile Organic Compounds				
1,2-Dichloroethane-d4		70-120	70-120	EPA 624/8260B
Toluene-d8		85-120	85-120	
Bromofluorobenzene		75-120	75-120	
Semi-Volatile Organic Compounds				
2-Fluorophenol		20-110	35-105	EPA 625/8270C
d5-Phenol		15-110	40-100	
d5-nitrobenzene		40-110	35-100	
2-Fluorobiphenyl		50-110	45-105	
2,4,6-Tribromophenol		40-110	40-125	
d14-p-terphenyl		50-130	30-125	
PAH's by SIM				
d5-nitrobenzene		21-110	35-110	EPA 8270C
2-Fluorobiphenyl		36-121	45-105	
d14-p-terphenyl		33-141	30-125	
Pesticides and PCBs				
2,4,5,6-Tetrachloro-m-xylene (TCX)		46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)		40-135	40-130	
Herbicides				
Dichloroacetic acid (DCAA)		30-150	30-150	
Gasoline Range Organics/TPH Gasoline				
Trifluorotoluene TFT (FID)		60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)		60-140	60-140	
Trifluorotoluene TFT (PID)		60-140	60-140	
Bromofluorobenzene (BFB) (PID)		60-140	60-140	
Diesel Range Organics/TPH Diesel				
m-terphenyl		60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH
Volatile Petroleum Hydrocarbons				
2,5-Dibromotoluene (PID)		70-130	70-130	MADEP VPH May 2004 Rev1.1
2,5-Dibromotoluene (FID)		70-130	70-130	
Extracatable Petroleum Hydrocarbons				
1-chloro-octadecane (aliphatic)		40-140	40-140	MADEP EPH May 2004 Rev1.1
o-Terphenyl (aromatic)		40-140	40-140	
2-Fluorobiphenyl (Fractionation)		40-140	40-140	
2-Bromonaphthalene (fractionation)		40-140	40-140	

analytics environmental laboratory LLC

PCB
DATA SUMMARIES

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Wallace
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

October 16, 2012

CLIENT SAMPLE ID

Project Name: UMaine Field House

Project Number: 224329

Field Sample ID: FH-CBK-001

SAMPLE DATA

Lab Sample ID: 73928-1
Matrix: Solid
Percent Solid: 98
Dilution Factor: 199000
Collection Date: 10/05/12
Lab Receipt Date: 10/09/12
Extraction Date: 10/10/12
Analysis Date: 10/16/12

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	6567000	U
PCB-1221	6567000	U
PCB-1232	6567000	U
PCB-1242	6567000	U
PCB-1248	6567000	U
PCB-1254	6567000	**174000000**
PCB-1260	6567000	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.
Sample cleanup was conducted according to SW-846 Method 3665A.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 73928
Sample: 73928-1,1:20000,,A/C
Data File: M63378.D
Dilution Factor: 198664.6

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	171245885	173901832	1.5	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

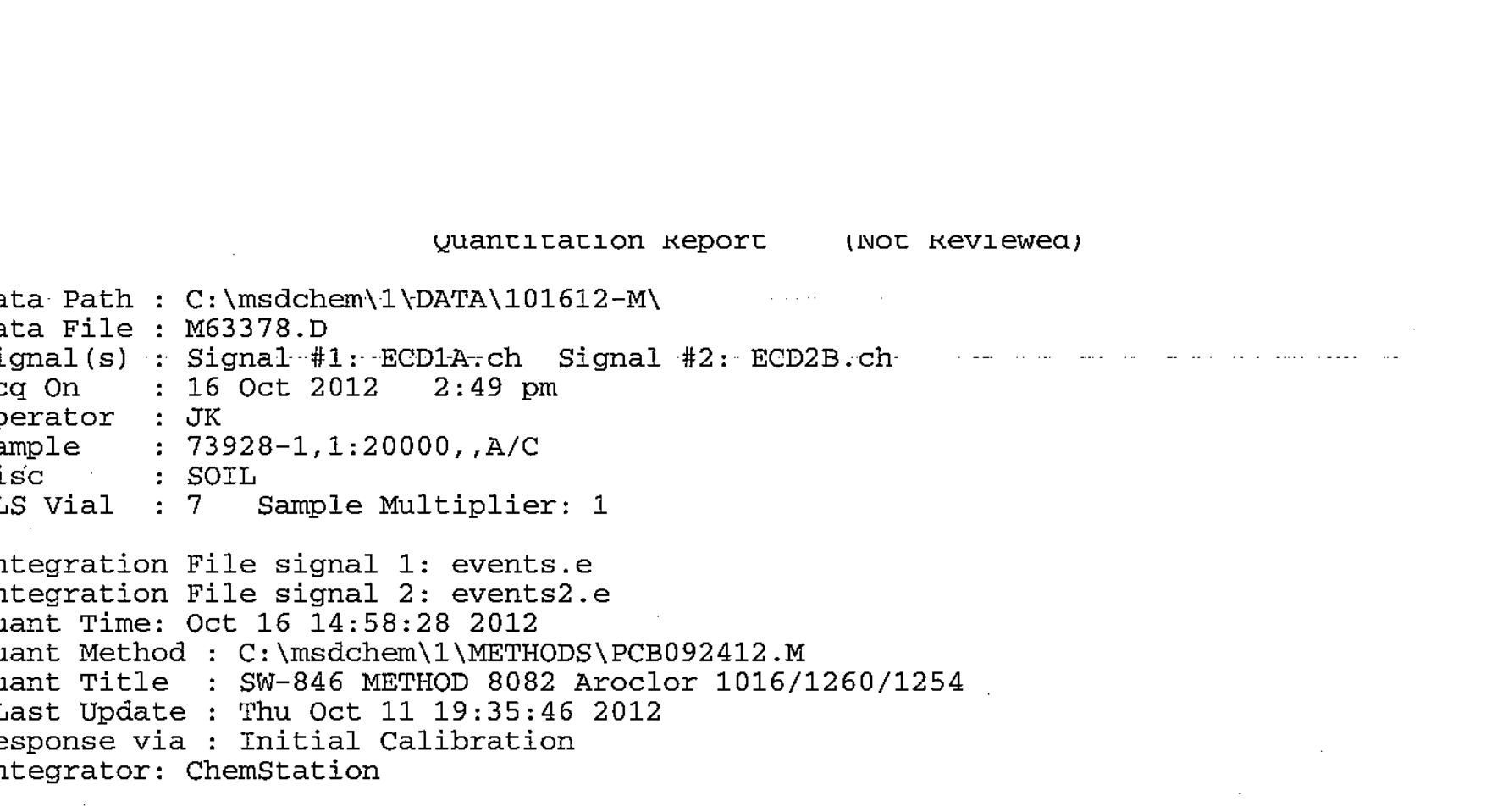
Comments: _____

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\101612-M\
Data File : M63378.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 16 Oct 2012 2:49 pm
Operator : JK
Sample : 73928-1,1:20000,,A/C
Misc : SOIL
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 16 14:58:28 2012
Quant Method : C:\msdchem\1\METHODS\PCB092412.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Thu Oct 11 19:35:46 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



analytics environmental laboratory LLC
195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111-Fax 603-430-2151
800-929-9906

Ms. Amy Wallace
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

October 16, 2012

CLIENT SAMPLE ID

Project Name: UMaine Field House

Project Number: 224329

Field Sample ID: FH-CBK-002

SAMPLE DATA

Lab Sample ID: 73928-2
Matrix: Solid
Percent Solid: 99
Dilution Factor: 101000
Collection Date: 10/05/12
Lab Receipt Date: 10/09/12
Extraction Date: 10/10/12
Analysis Date: 10/15/12

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	3333000	U
PCB-1221	3333000	U
PCB-1232	3333000	U
PCB-1242	3333000	U
PCB-1248	3333000	U
PCB-1254	3333000	**94900000**
PCB-1260	3333000	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.
Sample cleanup was conducted according to SW-846 Method 3665A.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 73928
Sample: 73928-2,1:10000,,A/C
Data File: M63357.D
Dilution Factor: 100989.7

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	94862957	92348313	2.7	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

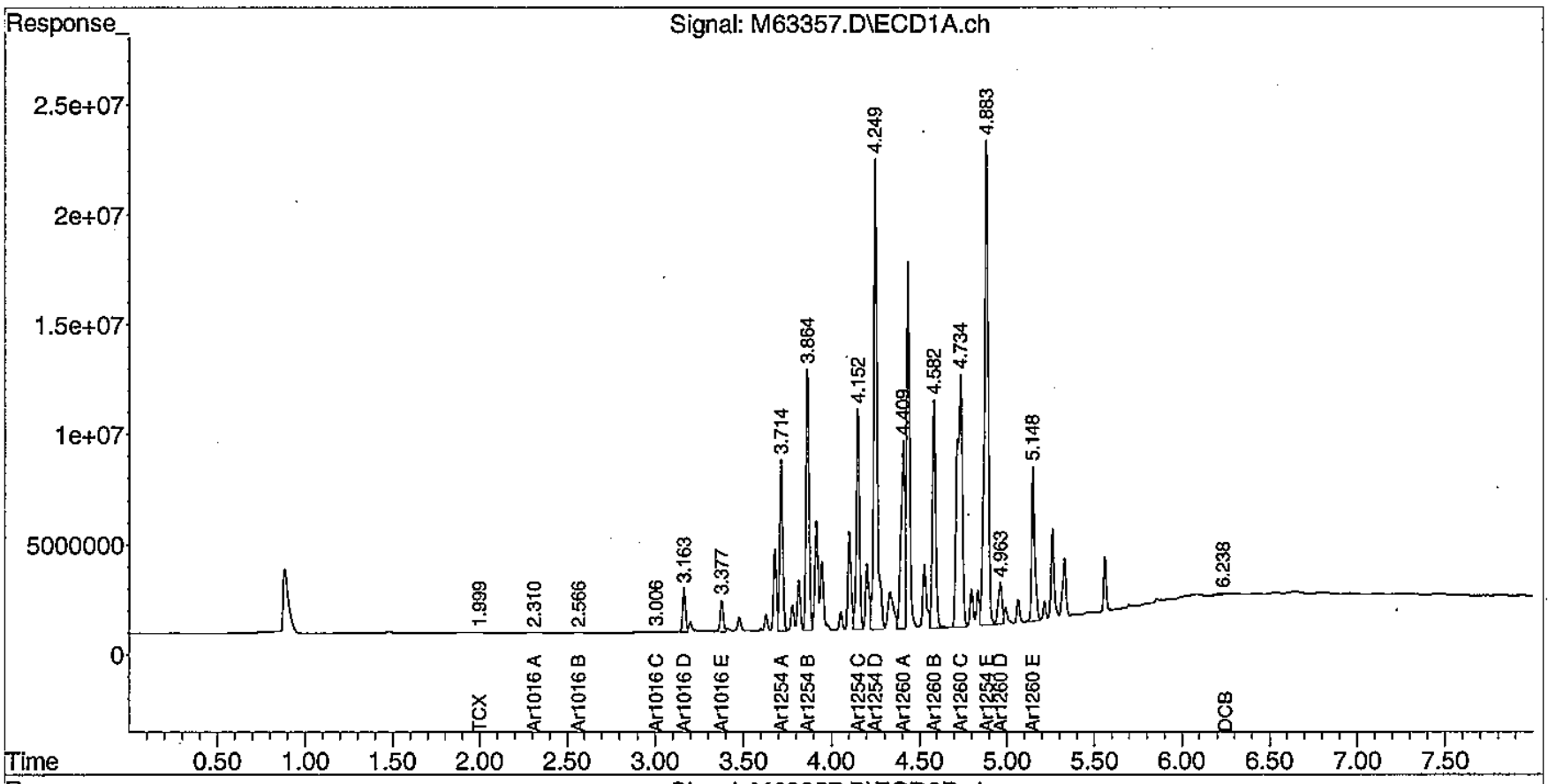
Comments: _____

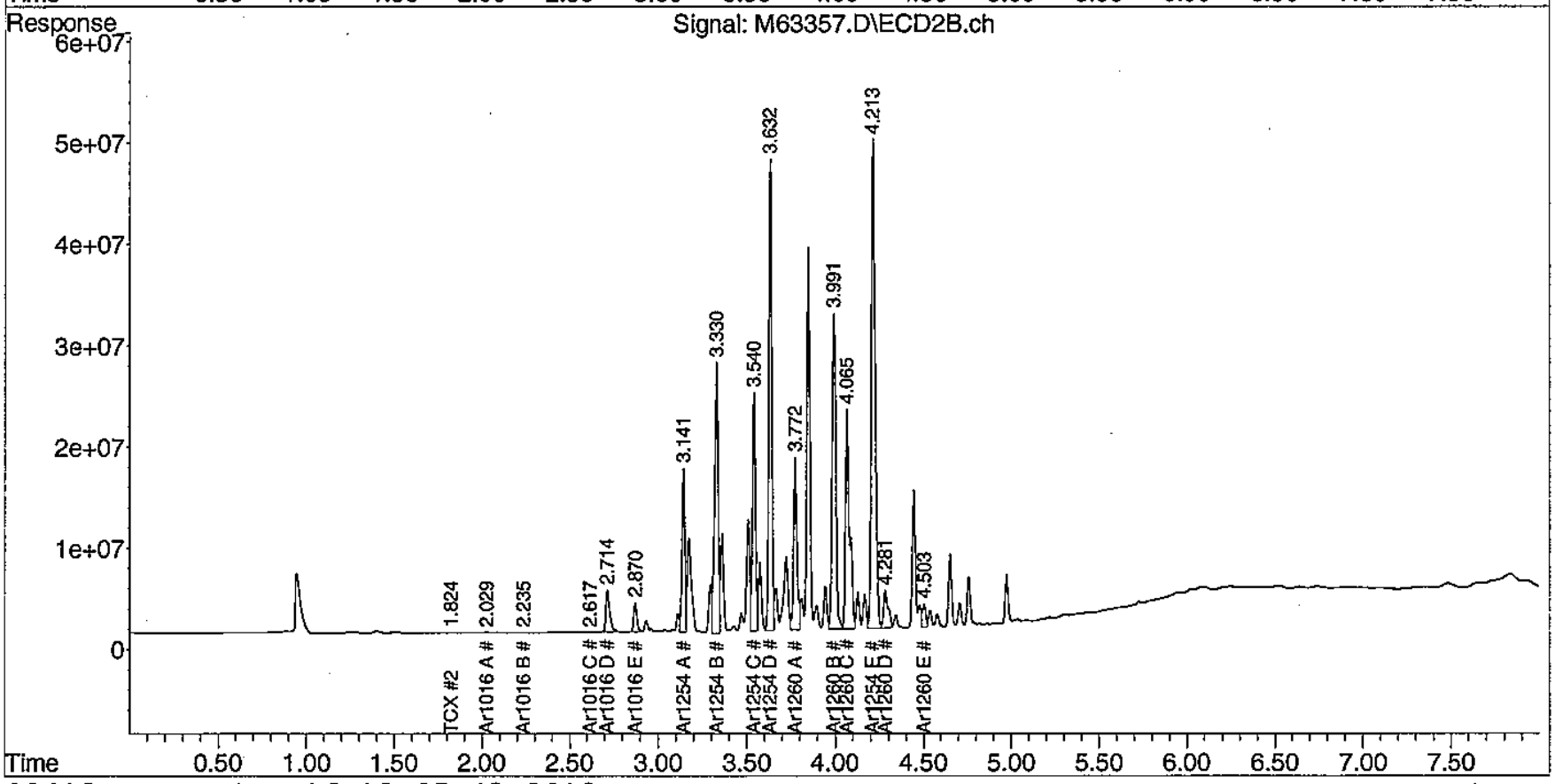
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101512-M\
Data File : M63357.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 15 Oct 2012 5:11 pm
Operator : JK
Sample : 73928-2,1:10000,,A/C
Misc : SOIL
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 16 12:05:36 2012
Quant Method : C:\msdchem\1\METHODS\PCB092412.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Thu Oct 11 19:35:46 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





analytics environmental laboratory LLC

PCB
QC FORMS

AnalyticsLLC:AEL Documents LLC:Pkg Dividers:PCBQC.doc

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 73928

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
73928-2,1:10000,,A/C	D		D		D		D	

		Lower Limit	Upper Limit
SMC #1 =	TCX	40	130
SMC #2 =	DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 73928

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
73928-1,1:20000,,A/C	D		D		D		D	

		Lower Limit	Upper Limit
SMC #1 =	TCX	40	130
SMC #2 =	DCB	40	130

Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

analytics environmental laboratory LLC

CHAIN OF CUSTODIES

Chain Of Custody Form

analytics environmental laboratory LLC
195 Commerce Way, Suite E
Portsmouth, NH 03801
(800) 929-9906
(603) 436-5111
(603) 430-2151 Fax

Project Name: UMaine Field House
Project#: 224329
Company: Woodard + Curran
Report to: Amy Wallace
Address: 41 Hutchins Dr
Portland ME 04102
Phone: 207-774-2112
Quote #:
PO# (if required):

Preservation Code:

Preseravtion Key:
A= HCL
B= 4°C
C= Unpres
D = MeOH
E = HNO3
F = H2SO4
G = Hexane
H = Other

Circle and/or Write Required Analysis Followed by Preservation Code
Please fill in preservation code here

Sample Identification	Sample Date	Sample Time	Field Filtered? Y or N	VOC: 8260 524.2 624	SVOC: 8270 625 PAH only SIM	Pesticides: 8081 608	PCB: (8082) 608 Soxhlet? (Y) or N	TPH: 8015 (Gas Range) ME4217	TPH: 8015 (Diesel Range) 8100M ME4125	EPH: Full or Ranges only TETPH	VPH: Full or Ranges only	Metals: RCRA8 PP13 TAL23 Other**	Total Hg, As, Pb	Matrix	No. of Containers	pH checked	Analytics Sample #
FH-CBK-001	10/5/12	1040					X							caulk	1		73928-1
FH-CBK-002	1	1045					X							caulk	1		2

For Analytics Use Only
Samples were:
1) Shipped or (hand-delivered)
2) Temperature (°C): 3.1
3) Received in good condition: (Y) or N
4) pH checked by:
5) Labels checked by: CEZ 10/9/12

Matrix Key:
C = Concrete
WP = Wipe
WW = Wastewater
SW = Surface Water
E = Extract
GW = Groundwater
DW = Drinking Water
S = Soil / Sludge
O = Oil
X = Other

Email Results to:
awallace

Turnaround Time (TAT)
☐ 24 Hours* ☐ 48 Hours*
☐ 72 Hours* ☒ 5 Days*
☐ 10 Days
*Fee may apply; lab approval required

Comments, Additional Analyses, or Special Instructions: ** List requested metals here

Please note: For volatile analyses, a trip blank has been provided in the cooler. If you want the trip blank run and reported please write the trip blank on the COC. Trip Blank analyses will be charged unless other arrangements have been made.

Project Requirements:
*Fee may apply

Report Type:
☐ MCP* ☒ Level II*
☐ CTRCP* ☐ Level III*
☐ DOD* ☐ Level IV*
☐ Standard

State:
☐ NH
☐ MA
☒ ME
☐ CT
☐ RI
Other:

State Standard:
(eg. S-1 or GW-1)
EDD Required: Y* (N)
Type:

Sampler Name (Print): Amy Wallace

	Date	Time		
Relinquished By Sampler: Amy Wallace	10/9/12	1215	Received By:	COLD STORAGE
Relinquished By: Cold Storage	10/9/12	1336	Received By:	
Relinquished By:	Date:	Time:	Received By:	

ANALYTICS SAMPLE RECEIPT CHECKLIST

analytics environmental laboratory LLC

AEL LAB#: 73928 COOLER NUMBER: 323

CLIENT: Woodard NUMBER OF COOLERS: 1

PROJECT: Umaine Field House

A: PRELIMINARY EXAMINATION:

1. Cooler received by(initials): CP DATE COOLER RECEIVED/OPENED: 10/9/12

2. Circle one: Hand delivered (If so, skip 3) Shipped

3. Did cooler come with a shipping slip? Y (N/A)

3a. Enter carrier name and airbill number here: _____

4. Were custody seals on the outside of cooler? Y (N)
How many & where: _____ Seal Date: _____ Seal Name: _____

5. Did the custody seals arrive unbroken and intact upon arrival? Y (N/A)

6. COC#: _____

7. Were Custody papers filled out properly (ink,signed, legible, project information etc)?	(Y)	N
8. Were custody papers sealed in a plastic bag?	(Y)	N
9. Did you sign the COC in the appropriate place?	(Y)	N
10. Was enough ice used to chill the cooler? (Y) N	Temp. of cooler: 3.1	

B. Log-In: Date samples were logged in: 10/9/12 By: CP

11. Were all bottles sealed in separate plastic bags?	Y	(N)
12. Did all bottles arrive unbroken and were labels in good condition?	(Y)	N
13. Were all bottle labels complete(ID,Date,time,etc.)	(Y)	N
14. Did all bottle labels agree with custody papers?	(Y)	N
15. Were the correct containers used for the tests indicated:	(Y)	N
16. Were samples received at the correct pH?	Y	(N/A)
17. Was sufficient amount of sample sent for the tests indicated?	(Y)	N
18. Were all samples submitted within holding time?	(Y)	N
19. Were all containers used within AEL's expiration date?**	Y	(N/A)
20. Were VOA samples absent of greater than pea-sized bubbles? (Note:Pea-sized bubbles or smaller are acceptable and are not considered to adversely affect volatiles data.)	Y	(N*/A)

*If NO, List Sample ID's, Lab #s: _____

When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials): [illegible] Date: 10/9/12

**The expiration date is recommended by Analytics Environmental Laboratory and not the method. Therefore this does not mean that the results are non-compliant.